

ABSTRACT

In neuron transplantation therapy, in terms of safety, it is preferable to use a cell population consisting only of a desired type of cells, and to use postmitotic neurons in consideration to avoid the risk of tumorigenesis. Moreover, greater therapeutic effects would be expected through the use of earlier progenitor cells in consideration of post-transplantation viability, proper network formation ability, and such.

According to the present invention, Lrp4, a gene that is specifically expressed in dopaminergic neuron proliferative progenitor cells prior to cell cycle exit, was identified. The use of Lrp4 expression in cells as an index allows for the isolation of cells suitable for transplantation therapy of neurodegenerative diseases such as Parkinson's disease in terms of safety, survival rate, and network formation ability.